

CLAIMS

What is claimed is:

- 1 1. A method of adding an event source to a transaction processing system having a
2 workflow server engine comprising the steps of:
3 defining the event in a workflow database;
4 creating one or more executable functions which creates a data structure for events
5 coming from the event source; and
6 creating a workflow to be executed on the workflow server engine in response to an event
7 from the event source.
- 1 2. The method of claim 1, wherein the event definition includes an event id.
- 1 3. The method of claim 2, wherein the created workflow is associated with the event
2 id so that the created workflow is executed in response to any event having the event id.
- 1 4. The method of claim 2, wherein the created workflow is associated with the event
2 id so that the created workflow is executed in response to any event having the event id.
- 1 5. The method of claim 1, wherein the event definition includes a list of parameters
2 associated with the event.
- 1 6. The method of claim 1, wherein the one or more executable functions is
2 comprised of a dynamic link library.

1 7. The method of claim 1, wherein the executable functions are designed to send an
2 event to the workflow server engine.

1 8. The method of claim 1, wherein the event source is added without changing the
2 workflow server engine.

1 9. The method of claim 1, further comprising the step of creating one or more rules
2 for associating an event from the added event source with the workflow.

1 10. The method of claim 9 wherein the rule includes a logic expression.

1 11. The method of claim 9, wherein the event definition includes one or more
2 parameters, and wherein the created rules includes the use of the parameters.

1 12. The method of claim 1, wherein a plurality of events are defined in the workflow
2 database, the method further comprising the step of categorizing the events into a
3 plurality of event types.

1 13. The method of claim 12, wherein each of the workflow server engine handles
2 each of the event types in different ways.

1 14. A method of adding a new subsystem to a workflow server engine having a
2 plurality of subsystems for providing events to the workflow server engine, the method
3 comprising the steps of:
4 defining an event which will be generated by the new subsystem;

5 creating a dynamic link library for creating a data structure for the defined event; and
6 associating the defined event with a workflow so that the associated workflow is
7 executed on the workflow server engine in response to an event from the new
8 subsystem.

1 15. The method of claim 14, wherein the dynamic link library creates a data structure
2 for the defined event.

1 16. The method of claim 14, wherein the step of defining the event further comprises
2 the step of assigning an event id to the event.

1 17. The method of claim 14, wherein the step of defining the event further comprises
2 the step of associating a plurality of parameters to the event.

1 18. The method of claim 17, wherein the plurality of subsystems also have a plurality
2 of associated events.

1 19. The method of claim 18, further comprising the step of exchanging events
2 between different subsystems during the execution of the workflow.

1 20. An apparatus for executing a transaction task within a transaction processing
2 system comprising:
3 a plurality of event providers for providing a source of events to the transaction
4 processing system;
5 a database for storing information relating to the events provided by the event providers;

6 a workflow server engine for executing workflows in response to events from the
7 plurality of event providers; and
8 a workflow editor for creating and editing workflows to be executed on the workflow
9 server engine.

1 21. The apparatus of claim 20, further comprising:
2 a new event provider;
3 a dynamic link library associated with the new event provider for allowing the new event
4 provider to provide events to the workflow server engine.

1 22. The apparatus of claim 21, wherein the dynamic link library allows the new event
2 provider to provide events to the workflow server engine without changing the workflow
3 server engine.

1 23. The apparatus of claim 20, wherein the transaction processing system collects step
2 execution information.

1 24. The apparatus of claim 20, wherein the collected information includes
2 information relating to the number of times a branch was executed by the workflow
3 server engine.

1 25. The apparatus of claim 20, wherein the collected information includes
2 information relating to the step execution time for one or more steps executed by the
3 workflow server engine.

1 26. A workflow execution system comprising:

2 a workflow server engine;
3 a database server;
4 a plurality of subsystems for providing events to the workflow server engine; and
5 wherein components of the workflow server engine are standards-based components.

1 27. The system of claim 26, wherein the components are comprised of ActiveX
2 controls.

1 28. A method of executing one or more workflows in a transaction processing system
2 comprising the steps of:
3 defining a plurality of events;
4 categorizing the plurality of events in to different types of events; and
5 executing one of the workflows in response to one or more events, wherein different
6 types of events are handled differently.

1 29. The method of claim 28, wherein the different types of events includes
2 synchronous events in which the workflow waits for a response from a synchronous
3 event before continuing.

1 30. The method of claim 28, wherein the different types of events includes
2 asynchronous events in which a workflow being executed continues while waiting for a
3 response to a synchronous event.

1 31. The method of claim 28, wherein the different types of events includes unsolicited
2 events in which the workflow passes an unsolicited event to any workflows being
3 executed.

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1 32. A method of adding a new service to a transaction processing system having a
2 workflow server engine comprising the steps of:
3 creating a configuration for the service in a database;
4 creating one or more executable functions which creates a data structure for
5 communications coming from the service; and
6 creating a workflow to be executed on the workflow server engine including
7 communications with the service.

1 33. The method of claim 32, wherein the service is an external database access
2 service.

1 34. The method of claim 32, wherein the service is a telephony service.

1 35. The method of claim 32, wherein the service is an email service.

1 36. A workflow execution system comprising:
2 a centralized database server; and
3 a plurality of workflow server engines connected to the centralized database server,
4 wherein the database server provides information to the workflow server engines
5 for executing workflows.

1 37. The method of claim 36, wherein the centralized database server stores workflows
2 to be executed by the workflow server engines.

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1 38. The method of claim 36, wherein the centralized database server stores rule sets
2 for use by the workflow server engines.

1 39. The method of claim 36, further comprising a locking mechanism for preventing
2 access to the database server.

1 40. The method of claim 39, wherein the locking mechanism prevents access to
2 components of the database server while the components are being modified.

1 41. The apparatus of claim 20, wherein the database stores a plurality of workflows
2 and a plurality of rules, and wherein the workflow server engine can selectively load one
3 or more of the workflows and rules.

1 42. A method of executing workflows in a transaction processing system comprising
2 the steps of:
3 providing a database;
4 providing a workflow server engine;
5 storing a plurality of workflow configurations on the database; and
6 selectively loading one or more of the workflow configurations into the workflow server
7 engine.

1 43. The method of claim 42 further comprising the step of selectively unloading
2 previously loaded workflow configurations.

1 44. The method of claim 42 wherein the workflow configurations each include one or
2 more executable workflows.

1 45. The method of claim 42 wherein the workflow configurations each include one or
2 more rule sets used for selecting workflows based on events.

1 46. A method of handling exceptions while executing workflows in a transaction
2 processing system comprising the steps of:
3 declaring one or more exception handlers;
4 during execution of a workflow, checking for the occurrence of an exception; and
5 if an exception has occurred, handling the exception according to the declaration.

1 47. The method of claim 46, wherein the exception handler is declared in a workflow
2 step.

1 48. The method of claim 46, wherein declaration instructs the workflow to ignore the
2 exception.

1 49. The method of claim 32, wherein the service is Web server request service.